

Preliminary Matters

The Examiner has objected to Figures 1-8 because they are not labeled as “Prior Art”. Accordingly, Applicant is submitting substitute formal drawings with this Amendment, and respectfully requests the Examiner to withdraw the objection.

Also, the Examiner has not acknowledged the Information Disclosure Statement filed on June 22, 2004. Accordingly, Applicant respectfully requests the Examiner to acknowledge the Information Disclosure Statement by providing an initialed PTO 1449 form with the next Office Action.

Rejections under 35 U.S.C. § 102(b)

Claims 1, 2, 5-7, 10, 11 and 13-18 have been rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,661,525 to Kovacevic et al. (“Kovacevic”).

A. Claim 1

Applicant submits that claim 1 is patentable over the cited reference. For example, claim 1 recites, (b) determining an estimated bi-directional motion vector from step (a), corresponding to a neighboring block, that has the minimum error distortion from among the plurality of motion vectors estimated in step (a), and, (c) setting a motion vector of a current block to be the estimated bi-directional motion vector determined in step (b).

The Examiner maintains that an estimated bi-directional motion vector, that has the minimum error distortion, is determined in col. 10, line 49 to col. 11, line 15. The Examiner further maintains that col. 9, line 45 to col. 10, line 9 discloses that the estimated bi-directional motion vector, having the minimum error distortion, is set as a motion vector of a current block. However, even if Applicant assumes *arguendo* that the error computation discussed in col. 10, line 49 to col. 11, line 15 determines an estimated bi-directional motion vector having a minimum error distortion, the reference still fails to teach or suggest that the determined motion vector is set as the motion vector of a current block, as recited in step (c). In particular, col. 9, line 45 to col. 10, line 9, merely discloses the preference of estimating using smaller signal blocks and larger search areas to obtain accurate estimates of spatial motion of objects. There is no teaching or suggestion that a bi-directional motion vector, which has a minimum error distortion, is set as a motion vector of a current block.

Further, claim 1 recites (d) forming a frame to be interpolated with the motion vector set in step (c).

Since Kovacevicet fails to teach or suggest the features recited in step (c), as set forth above, Applicant submits that the reference likewise fails to teach or suggest the features recited in step (d) (i.e. since step (d) utilizes the motion vector set in step (c)).

In view of the above, Applicant submits that claim 1 is patentable over the cited reference, and respectfully requests the Examiner to reconsider and withdraw the rejection.

B. Claims 2 and 5-7

Since claims 2 and 5-7 are dependent upon claim 1, Applicant submits that such claims are patentable at least by virtue of their dependency.

C. Claim 10

Applicant submits that claim 10 is patentable over the cited reference. For example, claim 10 recites a method of (a) estimating bi-directional motion vectors using motion vectors determined from a previous field and a next field, and (b) setting a motion vector of a pixel to be interpolated to be the motion vector estimated in (a) that has a minimum neighboring error distortion.

Similar to the rejection of claim 1, the Examiner maintains that a motion vector having a minimum neighboring error distortion is disclosed in col. 10, line 49 to col. 11, line 15 and col. 3, lines 55-60 of Kovacevicet. However, even if Applicant assumes *arguendo* that the cited portion discloses a motion vector having the minimum error distortion, the portion still fails to teach or suggest that the motion vector having the minimum error distortion is set as a motion vector of a pixel to be interpolated, as recited in claim 10.

Accordingly, Applicant submits that claim 10 is patentable over the cited reference, and respectfully requests the Examiner to reconsider and withdraw the rejection.

D. Claims 11 and 13-17

Since claims 11 and 13-17 are dependent upon claim 10, Applicant submits that such claims are patentable at least by virtue of their dependency.

E. Claim 18

Since claim 18 contains some features that are analogous to the features discussed above in regard to claim 1, Applicant submits that claim 18 is patentable over the cited reference for at least analogous reasons as claim 1.

Rejection under 35 U.S.C. § 103(a)

Claim 3 has been rejected under 35 U.S.C. § 103(a) as being unpatentable over Kovacevicet. However, since claim 3 is dependent upon claim 1, Applicant submits that claim 3 is patentable over the cited reference at least by virtue of its dependency.

In addition, the Examiner maintains that decimation is a very well known technique. Accordingly, if the rejection is to be maintained, Applicant respectfully requests that the Examiner cite a reference to support his position.

Response under 37 C.F.R. § 1.111
U.S. Application No.: 09/878,916

Allowable Subject Matter

As stated above, the Examiner has indicated that claims 9, 19 and 20 are allowed, and claims 4, 8 and 12 contain allowable subject matter, but are objected to as being dependent upon a rejected base claim.

Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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